

TROUBLESHOOTING FOR UNITS EQUIPPED WITH THE LENNOX BLOWER DRIVE

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional installer (or equivalent), service agency or the gas supplier.

⚠ WARNING

Disconnect power before servicing unit.

TABLE 1

Green Led*	Meaning
1 Short Flash	Normal Operation / Heartbeat
2 Short Flashes	Drive Fault
3 Short Flashes	
4 Short Flashes	
5 Short Flashes	
1 Flash + 1 Short Flash	Temporary Fault
1 Flash + 2 Short Flashes	
1 Flash + 3 Short Flashes	

*A short flash is 1 tenth of a second. A flash is 8 tenths of a second

⚠ CAUTION

If the RED LED on the blower drive is on, the capacitor is charged. To avoid shock hazard wait until the LED is off.

Testing The Motor

- 1 - Remove the motor harness from from the blower drive. See TEST A and figure 1.
- 2 - If ohms to ground shows low resistance replace motor.
- 3 - If the circuit is open move to test B and table 2 for acceptable resistance. If ohm reading is met motor has passed.
- 4 - If the motor passes both test A and B and the shaft spins freely by hand, replace the blower drive.

Checking Ground Fault Test A

Ensure that motor windings are not damaged by performing the following tests:

NOTE - If your ohm meter is not an auto-ranging type, set it to the highest ohm scale (100k ohms or greater) before performing tests.

- 1 - Measure the resistance between each of the three motor leads (3-pin plug) and the chassis ground. See figure 1.
- 2 - The resistance should read >100k ohms. If less than 100k replace the motor.

Checking Motor Windings Test B

Use an ohmmeter to measure the motor phase-to-phase resistance by checking these combinations of the 3-pin motor plug. For the purpose of this test, start at either end of the connector as lead 1.

- 1 - Check lead-to-lead (1 to 2, 1 to 3, 2 to 3). See table 2 for acceptable resistance.
- 2 - Each lead-to-lead resistance should be the same \pm 10%.

NOTE - If resistance exceeds the maximum limit shown in table 2, replace the motor.

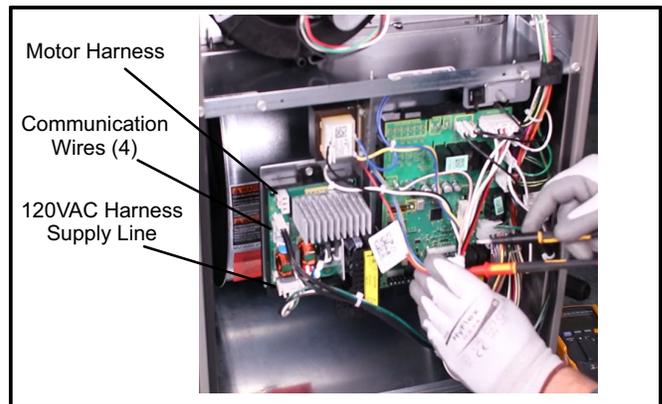


FIGURE 1

TABLE 2

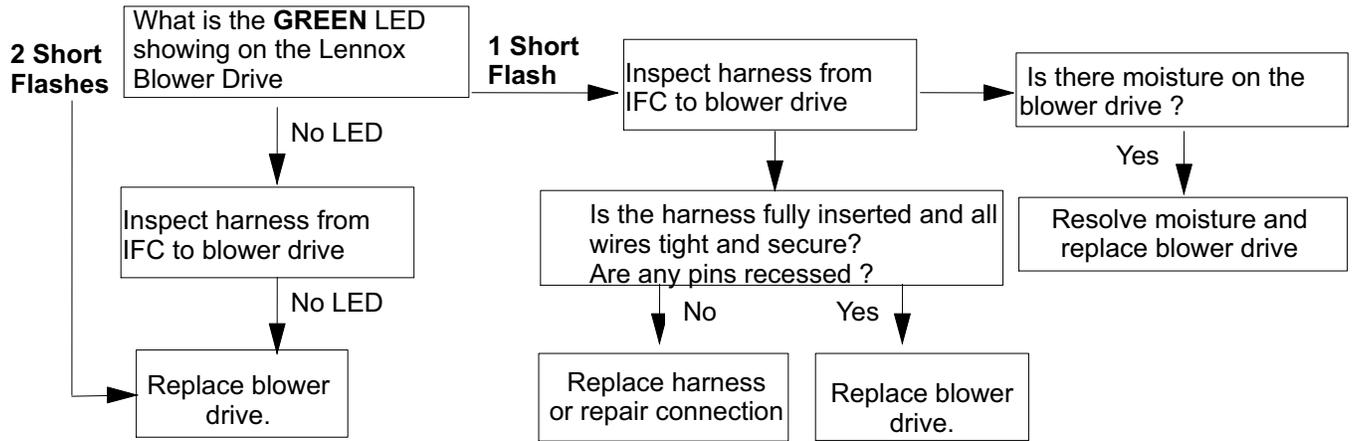
Motor HP	Normal Resistance (Ohms) at 68° (20°C)	*Max Limit (Ohms)
1/2	7.6 \pm .76	9.9
3/4	6.3 \pm .63	8.3
1	4.7 \pm .47	6.2

* Replace motor

TROUBLESHOOTING THE LENNOX BLOWER DRIVE (LBD)

Unit Error Codes	Error Code Description	LBD Faults	Possible Error Cause	Action to be taken	Additional Information	
E201	Failure to Communicate	1 Short Flash Normal Heartbeat	Poor communication connection	Repair Connection/ Replace Harness	Four Wire Harness between IFC and LBD	
			Bad communication harness	Replace harness		
			Intermittent operation from moisture effects	Resolve moisture cause		
			LBD has wrong Firmware	Replace LBD		
		LBD Failed				
		LBD in "Factory Data Corrupt" condition				
2 Short Flashes	Communication short within LBD					
No Green LED or Solid Green LED						
E292	Blower failed to come up to 50 RPM within allotted time	1 Flash + 1 Short Flash	Output Over current/IPM Over Temperature	Reset Power and observe	If error Continues replace Drive	
		1 Flash + 2 Short Flash				
		1 Flash + 3 Short Flash				Phase Imbalance
		1 Flash + 3 Short Flash				Rotor Lockout, Locked Rotor
		1 Short Flash Normal Heartbeat	Short or Open Winding	Replace Motor	Ohm Windings of Motor. See figure 1.	
			Open Thermal Protector			
			Seized Bearing			Does motor turn ? Is it mechanically bound ?
			Bad Connector /Plug	Repair Connector or Replace Motor		
			IPM Failure	Replace LBD		
			Bus Cap Failure			
		Voltage Feedback Failure				
		3 Short Flashes	Bad Electrical Calibration			
		4 Short Flashes	Bad Calibration			
5 Short Flashes	LBD Power Level incorrect					

Troubleshooting The Lennox Blower Drive Fault E201



Troubleshooting The Lennox Blower Drive Fault E292

